What is claimed is:

1. A pre-cured coating mixture, comprising:
a radiation-curable resin; and
an initiator;
wherein said radiation-curable resin and said initiator form a pre-cured coating mixture capable of forming a macroscopic texture upon application of said mixture on a substrate.

2. The coating mixture of claim 1 wherein said radiation-curable resin comprises radiation-curable oligomers and monomers comprising approximately 1-20 radiation-curable groups per molecule.

3. The coating mixture of claim 2 wherein said radiation-curable groups are selected from the group consisting of acrylate, oxirane, vinyl ether, hydroxyl, lactone, and mixtures thereof.

4. The coating mixture of claim 1 wherein said radiation-curable resin is selected from the group consisting of radiation-curable urethane acrylate, radiation-curable ethoxylated diacrylate, radiation-curable propoxylated diacrylate, radiation-curable ethoxylated trimethlolpropane triacrylate, radiation-curable acylphosphine oxide, and mixtures thereof.

5. The coating mixture of claim 1 wherein said radiation-curable resin comprises approximately 50-99%, by weight, of said coating mixture.

6. The coating mixture of claim 1 wherein said initiator is selected from the group consisting of a free radical photoinitiator, a cationic photoinitiator, and mixtures thereof.

7. The coating mixture of claim 1 wherein said pre-cured coating mixture has an effective viscosity for forming the macroscopic texture.

8. The coating mixture of claim 1 further comprising a rheological control agent and wherein said radiation-curable resin, said initiator, and said rheological control agent form said pre-cured coating mixture.

9. The coating mixture of claim 8 wherein said rheological control agent is selected from the group consisting of inorganic particles, organic solids, and mixtures thereof.

10. The coating mixture of claim 9 wherein said inorganic particles are selected from the group consisting of alumina, silica, fumed alumina, fumed silica, aluminosilicate, alumina coated on silica, metal oxides, metal, carbonates, clays, and mixtures thereof.

11. The coating mixture of claim 9 wherein said inorganic particles have an approximate size in the range from 27-56 nanometers.

12. The coating mixture of claim 9 wherein said inorganic particles are nanometer-sized alumina.

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13. The coating mixture of claim 9 wherein said inorganic particles are aluminosilicates.

14. The coating mixture of claim 9 wherein said inorganic particles comprise approximately 1-80%, by weight, of said coating mixture.

15. The coating mixture of claim 9 wherein said organic solids are selected from the group consisting of low molecular weight waxes, polymers of ethylene glycol, polymers of propylene glycol, natural polymers, polyamides, polypropylene, and mixtures thereof.

16. The coating mixture of claim 9 wherein said organic solids comprise approximately 1-50%, by weight, of said coating mixture.

17. The coating mixture of claim 15 wherein said pre-cured coating mixture has an effective viscosity for forming the macroscopic texture.

18. The coating mixture of claim 15 further comprising a coupling agent.

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19. The coating mixture of claim 1 further comprising a plurality of particles having an effective size to form the macroscopic texture.

20. The coating mixture of claim 1 further comprising:
a flatting agent comprising 5 micron-sized nylon particles;

a plurality of texture-producing particles comprising 60 micron-sized nylon 12 particles;

a rheological control agent comprising a plurality of alumina particles having a particle size distribution in the range of 27-56 nanometers;

a coupling agent comprising prehydrolized silane; and

wherein said resin comprises a mixture of urethane acrylate, ethoxylated diacrylate, propoxylated diacrylate, ethoxylated trimethlyolpropane triacrylate, and acylphosphine oxide.

21. The coated substrate of claim 19 wherein said plurality of particles are selected from the group consisting of glass, ceramic, alumina, silica, aluminosilicates, alumina coated on silica, polyamide, polypropylene, polyethylene, polytetrafluoroethylene, ethylene copolymers, waxes, epoxy, urea-formaldehyde, nylon, and mixtures thereof.

22. The coated substrate of claim 21 wherein said plurality of particles is nylon 12.

23. The coated substrate of claim 19 wherein said plurality of particles have a diameter of approximately 40-350 microns.

24. A coated substrate, comprising:

a substrate; and

a radiation-cured coating on at least a portion of said substrate, wherein said coating comprises an inherent macroscopic texture.

25. The coated substrate of claim 24 wherein said coating comprises a radiation-cured resin.

26. The coated substrate of claim 25 wherein said coating further comprises a rheological control agent.

27. The coated substrate of claim 26 wherein said rheological control agent is selected from the group consisting of inorganic particles, organic solids, and mixtures thereof.

28. The coated substrate of claim 27 wherein said inorganic particles are selected from the group consisting of alumina, silica, fumed alumina, fumed silica, aluminosilicate, alumina coated on silica, metal oxides, metal, carbonates, clays, and mixtures thereof.

29. The coated substrate of claim 27 wherein said inorganic particles have an approximate size in the range from 27-56 nanometers.

30. The coated substrate of claim 27 wherein said inorganic particles are nanometer-sized alumina.

31. The coated substrate of claim 27 wherein said inorganic particles are aluminosilicates.

32. The coated substrate of claim 27 wherein said macroscopic texture is provided by the mixture comprising said rheological control agent and a radiation-curable resin that is a precursor to said radiation-cured resin, said mixture having an effective viscosity to form said macroscopic texture.

33. The coated substrate of claim 26 wherein said coating further comprises a coupling agent.

34. The coated substrate of claim 25 further comprising a plurality of particles having an effective size to provide said macroscopic texture.

35. The coated substrate of claim 34 wherein said plurality of particles are selected from the group consisting of glass, ceramic, alumina, silica, aluminosilicates, alumina coated on silica, polyamide, polypropylene, polyethylene, polytetrafluoroethylene, ethylene copolymers, waxes, epoxy, urea-formaldehyde, nylon, and mixtures thereof.

36. The coated substrate of claim 35 wherein said plurality of particles is nylon 12.

37. The coated substrate of claim 34 wherein said plurality of particles have a diameter of approximately 40-350 microns.

38. The coated substrate of claim 25 wherein said substrate is a flooring material.

39. The coated substrate of claim 24 further comprising:

a flatting agent comprising 5 micron-sized nylon particles;

a plurality of texture-producing particles comprising 60 micron-sized nylon 12 particles;

a rheological control agent comprising a plurality of alumina particles having a particle size distribution in the range of 27-56 nanometers;

a coupling agent comprising prehydrolized silane; and

wherein said resin comprises a mixture of urethane acrylate, ethoxylated diacrylate, propoxylated diacrylate, ethoxylated trimethlyolpropane triacrylate, and acylphosphine oxide.

40. A coated substrate, comprising:

a substrate; and

a radiation-cured coating on said substrate, wherein said radiation-cured coating comprises an inherent macroscopic texture produced by distributing a mixture of a radiation-curable resin and an initiator over at least a portion of said substrate to form a pre-cured coating mixture having said macroscopic texture and radiation-curing said pre-cured coating mixture to form said radiation-cured coating having said macroscopic texture.

41. A process for making a coating on a substrate, comprising the steps of:

distributing a pre-cured coating mixture comprising a radiation-curable resin and an initiator over at least a portion of a substrate to form a pre-cured coating having a macroscopic texture; and

radiation-curing said pre-cured coating to form a radiation-cured coating having said macroscopic texture.

42. The process of claim 41 wherein said distributing step is performed using an air knife.

43. The process of claim 41 wherein said distributing step includes the step of distributing a pre-cured coating mixture comprising a radiation-curable resin, an initiator, and a rheological control agent over at least a portion of a substrate to form a pre-cured coating having a macroscopic texture.

44. The process of claim 43 further comprising the step of mixing said radiation-curable organic resin, said initiator, and said rheological control agent at a temperature of approximately less than 100°C to form said pre-cured coating mixture.

45. The process of claim 41 wherein said distributing step includes the step of distributing a pre-cured coating mixture comprising a radiation-curable resin, an initiator, and a plurality of particles having an effective size to form said macroscopic texture.